

Biofuels for Sustainable Transportation

Hawaii

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Overview

- **The Ethanol Industry Today**
- **Current Markets for Ethanol**
- **Expectations for Industry Growth**
- **The “Renewable Fuels Standard”**
- **New Market Opportunities**
- **USDA Programs – Starting an Ethanol Facility**

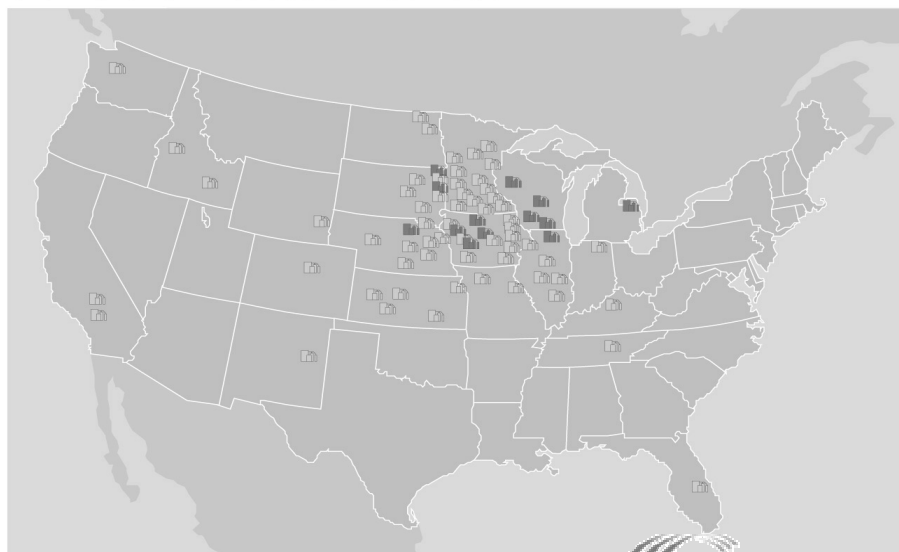


U.S. Ethanol Industry Today

- Annual production record in 2001 of 1.77 bgy
- 2.4 bgy capacity today
- 65 facilities in 20 states
- 12 plants under construction (>400 mgy) will increase capacity to 2.7 bgy by end of year
- Expansions to existing facilities underway
- Dozens of additional plants in various stages of development



U.S. Ethanol Production Facilities



Current U.S. Markets

- Octane/Extender ~ 830 mgy
- Winter Oxyfuel Program ~ 250 mgy
- Reformulated gasoline ~ 450 mgy
- Minnesota oxygen program~ 250 mgy

- Total 1.78 bgy



What's Leading Industry Growth?

- Concerns about MTBE contamination
- California market opportunity
 - California Switching to Ethanol
 - BP / Shell / Phillips / Exxon-Mobil
 - 56% of California Market
 - 400 – 500 mgy
- Need to expand U.S. fuel supply
- Energy and homeland security agenda



Senate Energy Bill Fuels Agreement

- **Phases out MTBE use in 4 years**
- **Eliminates 2% RFG oxygen standard from the Clean Air Act**
- **Maintains current air quality gains of RFG program**
- **Creates Nationwide Transportation Fuels Program**
- **Creates Renewable Fuels Standard (RFS)**



Renewable Fuels Standard in S. 517 (HR 4)

- **Requires gradual and increasing percentage of renewable fuels, including ethanol and biodiesel, growing to 5 bgy in 2012**
- **Credit Trading and Banking**
- **DOE can adjust % upward or downward, depending on supply**
- **Temporary Waivers**
- **Small Refiner Exemption**



Economic Impact of RFS

- Provide a one-time boost of \$142 million to the local economy during construction.
- Expand the local economic base of the community by \$110.2 million each year through the direct spending of \$56 million.
- Create 41 full-time jobs at the plant and a total of 694 jobs throughout the entire economy.
- Increase the local price of corn by an average of 5-10 cents a bushel, adding significantly to farm income in the general area surrounding the plant.



Economic Impact of RFS

- Increase household income for the community by \$19.6 million annually.
- Boost state and local sales tax receipts by an average of \$1.2 million (varies depending on local rates).
- Provide an average 13.3 percent annual return on investment over ten years to a farmer who invests \$20,000 in an ethanol production facility.



Senate Energy Bill Fuels Agreement

- Supported by:
 - American Petroleum Institute
 - Northeast States for Coordinated Air Use Management (NESCAUM)
 - American Lung Association
 - Renewable Fuels Association
 - Renewable Energy Action Project
 - Others



New Market Opportunities

- **E-Diesel fuel blends**
- **Fuel Source for Fuel Cells**
- **Research underway to identify new uses and high-value co-products**
- **Worldwide demand for renewable fuels growing as means to reduce GHG and develop new agricultural markets**



USDA Programs – Starting an Ethanol Facility

On the federal level, the U.S. Department of Agriculture (USDA) Rural Development Office provides financial assistance in the form of grants and loans to improve the economy and quality of life in rural America. Technical assistance and information resources are also available. These programs can assist entities seeking to develop and build an ethanol production facility.



USDA Programs – Starting an Ethanol Facility

USDA provides two types of Programs:

Business Programs
&
Cooperative Services.



USDA Business Programs

USDA through its "Rural Business-Cooperative Service" program creates partnerships with commercial lending institutions, the Farm Credit System, Farmer Mac, and other supplemental sources of funding to provide financing for qualified rural business enterprises.

Business Programs are available to businesses in areas outside the boundary of urban areas with populations under 50,000.

Recipients may include any legally organized entity, including cooperatives, corporations, partnerships, trusts, profit and nonprofit organizations, Indian tribes, private companies, municipalities, counties or individuals.



USDA Business Programs

Business and Industry (B&I) Guaranteed Loan Program: Provides financial backing for rural businesses to help create jobs and stimulate rural economies. Provides guarantees up to 90% of a loan made by a commercial lender. Loan proceeds may be used for working capital, machinery and equipment, buildings and real estate, and certain types of debt financing. The maximum loan amount to any one borrower is \$25 million.

Cooperative Stock Purchase Program: Farmers can use B&I loan guarantees to help pay for stock in a start-up cooperative that processes an agricultural commodity into a value-added product. The cooperative must be a new venture. The cooperative (not the farmer) must make a written request to its USDA Rural Development State Office for determination of eligibility.



USDA Business Programs

Rural Business Opportunity Grants: Designed to promote economic development in rural communities by making grants to pay the costs of providing economic planning, technical assistance, or training. Applicants must be a public body, nonprofit corporation, Indian tribe, or cooperative with members that are primarily rural residents. Applicants must have expertise in the activities proposed and be able to demonstrate that funding will result in rural economic development. A maximum of \$1.5 million is available for the program, with most grants of \$50,000 or less.



USDA Business Programs

Rural Business Enterprise Grants: The Rural Business-Cooperative Service makes grants to facilitate development of small and emerging business enterprises in rural areas. Use of grant funds may include acquisition and development of land and the construction of buildings, plants, equipment, access roads, parking areas, and utility extensions; refinancing; fees; technical assistance and training; loans to third parties; production of television programs to provide information to rural residents; and distance learning networks.



USDA Business Programs

Intermediary Relending Program: The purpose of the Intermediary Relending Program (IRP) is to finance business facilities and community development projects in rural areas. This is achieved through loans made by the Rural Business-Cooperative Service (RBS) to intermediaries. Intermediaries re-lend funds to ultimate recipients for business facilities or community development. Intermediaries establish revolving loan funds so collections from loans made to ultimate recipients in excess of necessary operating expenses and debt payments will be used for more loans to ultimate recipients.



USDA Business Programs

Rural Economic Development Loans: Provides zero-interest loans to electric and telephone utilities financed by the Rural Utilities Service (RUS), an agency of the United States Department of Agriculture, to promote sustainable rural economic development and job creation projects.

RUS Electric Program: Makes insured loans and guarantees of loans to nonprofit and cooperative associations, public bodies, and other utilities. Insured loans primarily finance the construction of facilities for the distribution of electric power in rural areas. The guaranteed loan program has been expanded and is now available to finance generation, transmission, and distribution facilities in rural areas.



USDA Cooperative Service Programs

Promotes understanding and use of the cooperative as a viable organizational option for marketing and distributing agricultural products. Helps rural residents form new cooperative businesses and improve the operations of existing cooperatives.

Value-Added Agricultural Product Market Development Grants - Independent Producers: This grant program seeks to encourage independent agricultural producers to further refine their products for value-added benefits. These grants will facilitate greater participation by farmers in markets for value-added agricultural commodities and facilitate the opening of new markets for value-added products. The proposed project must change the form of an agricultural product, such as processing grain into ethanol, wheat into flour, etc.



USDA Cooperative Service Programs

Cooperative Development Technical Assistance: Provides assistance for those interested in forming a new cooperative, from an initial feasibility study to the creation and implementation of a business plan.

Technical Assistance: Could include helping a cooperative develop a strategic marketing plan, determine whether to merge or form a joint venture with other coops, or find a way to turn raw products into value-added products. Assistance often includes an analysis of operations or assessing the economic feasibility of new facilities or adding new products or services.



USDA Cooperative Service Programs

Cooperative Services also conducts research, provides education and information, and collects historical data and statistics. For further information or assistance for cooperatives, contact:

USDA Rural Development/Cooperative Services
Stop 3250
Washington, DC 20250-3250
(202) 720-7558 FAX: (202) 720-4641
email: coopinfo@urdev.usda.gov



USDA Special Initiatives

Commodity Credit Corporation (CCC) Bioenergy Program: Under the program, the CCC has made up to \$150 million available annually in incentive cash payments to bioenergy (ethanol and biodiesel) producers in the U.S. that increase their purchases of agricultural commodities over the previous fiscal year's purchases and convert that commodity into increased bioenergy production.



USDA Special Initiatives

Rural Cooperative Development Grants: USDA grants are available for establishing and operating centers for cooperative development to improve rural economies through the development of new cooperatives and to improve the operations of existing coops.

Biobased Products and Bioenergy Program: This program seeks to promote national economic interests through the conversion of renewable farm and forestry resources to affordable fuel (i.e. ethanol and biodiesel), chemicals, electricity, pharmaceuticals, and other materials in cost- competitive manner. Loans are eligible for financing under the Business and Industry Guaranteed and Direct Loan Programs (see above).



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